

Appl. No. 10/091,035
Amdt. dated November 14, 2005
Reply to Final Office Action of January 10, 2005

AMENDMENTS TO THE CLAIMS:

This listing of the claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) A system, adapted for use in a communications network, for evaluating at least one communication link between a transmitting node and a receiving node in the communications network, the system comprising:

a processor for assigning a link quality value to said communication link based on a transmit power level (TPL) value at which said data packet was transmitted by said transmitting node, a received sensitivity (RS) value of said receiving node receiving said data packet, and a receive signal strength indication (RSSI) value provided by said network; and

wherein said processor calculates said link quality value as a link quality ratio (LOR) represented by the equation $LOR = 1 - (TPL - RSSI)/(TPL - RS)$.

2. (Previously Presented) A system as claimed in claim 1, further comprising:
a packet analyzer for examining a content of a data packet being sent between said two nodes to determine said TPL.

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3. (Previously Presented) A system as claimed in claim 1, wherein:

said processor receives said RSSI value from a physical layer of said communications network.

4. (Previously Presented) A system as claimed in claim 1, wherein:

said processor determines whether additional data packets are to be sent by said transmitting node to said receiving node via said communication link based on said link quality value.

5. (Previously Presented) A system as claimed in claim 1, wherein:

said network includes an ad-hoc wireless communications network; and
said processor assigns said link quality value to said communication link between said transmitting and receiving nodes which are each wireless nodes in said ad-hoc wireless communications network.

6. (Previously Presented) A system as claimed in claim 1, wherein:

said network includes an 802.11-type network; and
said processor assigns said link quality value to said communication link between said transmitting and receiving nodes which are each wireless 802.11-type nodes in said 802.11-type network.

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7. (Canceled).

8. (Previously Presented) A system as claimed in claim 1, wherein:
said processor assigns a respective said link quality value to each respective one of said communication links between said transmitting and receiving nodes.

9. (Previously Presented) A system as claimed in claim 8, wherein:
said processor selects one of said communication links as a selected route via which additional data packets are to be sent by said transmitting node to said receiving node via said communication link based on said link quality value.

10. (Original) A system as claimed in claim 9, wherein:
said processor selects as said selected route one of said communications links having the highest link quality value.

11. (Original) A system as claimed in claim 1, wherein:
said processor assigns said link quality value on a per packet basis.

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12. (Currently Amended) A method for evaluating at least one communication link between a transmitting node and a receiving node in a communications network, the method comprising:

assigning a link quality value to said communication link based on a transmit power level (TPL) value at which said data packet was transmitted by said transmitting node, a received sensitivity (RS) value of said receiving node receiving said data packet, and a receive signal strength indication (RSSI) value provided by said network; and

wherein said assigning calculates said link quality value as a link quality ratio (LOR) represented by the equation $LOR = 1 - (TPL - RSSI)/(TPL - RS)$.

13. (Original) A method as claimed in claim 12, further comprising:
examining a content of a data packet being sent between said two nodes to determine said TPL.

14. (Original) A method as claimed in claim 12, further comprising:
receiving said RSSI value from a physical layer of said communications network.

15. (Original) A method as claimed in claim 12, further comprising:
determining whether additional data packets are to be sent by said transmitting node to said receiving node via said communication link based on said link quality value.

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16. (Original) A method as claimed in claim 12, wherein:
said network includes an ad-hoc wireless communications network; and
said assigning assigns said link quality value to said communication link between said transmitting and receiving nodes which are each wireless nodes in said ad-hoc wireless communications network.

17. (Previously Presented) A method as claimed in claim 12, wherein:
said network includes an 802.11-type network; and
said assigning assigns said link quality value to said communication link between said transmitting and receiving nodes which are each wireless 802.11-type nodes in said 802.11-type network.

18. (Canceled).

19. (Original) A method as claimed in claim 12, wherein:
said assigning assigns a respective said link quality value to each respective one of said communication links between said transmitting and receiving nodes.

20. (Original) A method as claimed in claim 19, further comprising:

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selecting one of said communication links as a selected route via which additional data packets are to be sent by said transmitting node to said receiving node via said communication link based on said link quality value.

21. (Original) A method as claimed in claim 20, wherein:

said selecting selects as said selected route one of said communications links having the highest link quality value.

22. (Original) A method as claimed in claim 12, wherein:

said assigning assigns said link quality value on a per packet basis.

23. (Currently Amended) A computer-readable medium of instructions, adapted for use with a communications network for evaluating at least one communication link between a transmitting node and a receiving node in the communications network, the instructions comprising:

a first set of instructions for assigning a link quality value to said communication link based on a transmit power level (TPL) value at which said data packet was transmitted by said transmitting node, a received sensitivity (RS) value of said receiving node receiving said data packet, and a receive signal strength indication (RSSI) value provided by said network; and

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wherein said first set of instructions calculates said link quality value as a link quality ratio (LQR) represented by the equation $LQR = 1 - (TPL - RSSI)/(TPL - RS)$.

24. (Previously Presented) A computer-readable medium of instructions as claimed in claim 23, further comprising:

a second set of instructions for examining a content of a data packet being sent between said two nodes to determine said TPL.

25. (Previously Presented) A computer-readable medium of instructions as claimed in claim 23, further comprising:

a third set of instructions for obtaining said RSSI value from a physical layer of said communications network.

26. (Previously Presented) A computer-readable medium of instructions as claimed in claim 23, further comprising:

a fourth set of instructions for determining whether additional data packets are to be sent by said transmitting node to said receiving node via said communication link based on said link quality value.

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27. (Original) A computer-readable medium of instructions as claimed in claim 23, wherein:

said network includes an ad-hoc wireless communications network; and

said first set of instructions assigns said link quality value to said communication link between said transmitting and receiving nodes which are each wireless nodes in said ad-hoc wireless communications network.

28. (Previously Presented) A computer-readable medium of instructions as claimed in claim 23, wherein:

said network includes an 802.11-type network; and

said first set of instructions assigns said link quality value to said communication link between said transmitting and receiving nodes which are each wireless 802.11-type nodes in said 802.11-type network.

29. (Canceled).

30. (Original) A computer-readable medium of instructions as claimed in claim 23, wherein:

said first set of instructions assigns a respective said link quality value to each respective one of said communication links between said transmitting and receiving nodes.

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31. (Previously Presented) A computer-readable medium of instructions as claimed in claim 30, further comprising:

a fifth set of instructions for selecting one of said communication links as a selected route via which additional data packets are to be sent by said transmitting node to said receiving node via said communication link based on said link quality value.

32. (Original) A computer-readable medium of instructions as claimed in claim 31, wherein:

said fifth set of instructions selects as said selected route one of said communications links having the highest link quality value.

33. (Original) A computer-readable medium of instructions as claimed in claim 23, wherein:

said first set of instructions assigns said link quality value on a per packet basis.

34. (Previously Presented) A system as claimed in claim 1, wherein:
said processor is employed in said receiving node.

35. (Previously Presented) A system as claimed in claim 34, wherein:

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said receiving node is a mobile wireless node in said communications network.

36. (Previously Presented) A system as claimed in claim 5, wherein:
said processor is employed in said receiving node.

37. (Previously Presented) A system as claimed in claim 36, wherein:
said receiving node is mobile.

38. (Previously Presented) A system as claimed in claim 6, wherein:
said processor is employed in said receiving node.

39. (Previously Presented) A system as claimed in claim 38, wherein:
said receiving node is mobile.

40. (Previously Presented) A method as claimed in claim 12, wherein:
said receiving node performs said assigning step.

41. (Previously Presented) A method as claimed in claim 40, wherein:
said receiving node is a mobile wireless node in said communications network.

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42. (Previously Presented) A method as claimed in claim 16, wherein:
said receiving node performs said assigning step.

43. (Previously Presented) A method as claimed in claim 42, wherein:
said receiving node is mobile.

44. (Previously Presented) A method as claimed in claim 17, wherein:
said receiving node performs said assigning step.

45. (Previously Presented) A method as claimed in claim 44, wherein:
said receiving node is mobile.

46. (Previously Presented) A computer-readable medium of instructions as
claimed in claim 23, wherein:

said first set of instructions controls said receiving node to assign a link quality value to
said communication link based on a transmit power level (TPL) value at which said data packet
was transmitted by said transmitting node, a received sensitivity (RS) value of said receiving
node receiving said data packet, and a receive signal strength indication (RSSI) value provided
by said network.

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47. (Previously Presented) A computer-readable medium of instructions as claimed in claim 46, wherein:

said receiving node is a mobile wireless node in said communications network.

48. (Previously Presented) A computer-readable medium of instructions as claimed in claim 27, wherein:

said first set of instructions controls said receiving node to assign a link quality value to said communication link based on a transmit power level (TPL) value at which said data packet was transmitted by said transmitting node, a received sensitivity (RS) value of said receiving node receiving said data packet, and a receive signal strength indication (RSSI) value provided by said network.

49. (Previously Presented) A computer-readable medium of instructions as claimed in claim 48, wherein:

said receiving node is mobile.

50. (Previously Presented) A computer-readable medium of instructions as claimed in claim 28, wherein:

said first set of instructions controls said receiving node to assign a link quality value to said communication link based on a transmit power level (TPL) value at which said data packet

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was transmitted by said transmitting node, a received sensitivity (RS) value of said receiving node receiving said data packet, and a receive signal strength indication (RSSI) value provided by said network.

51. (Previously Presented) A computer-readable medium of instructions as claimed in claim 50, wherein:

said receiving node is mobile.